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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/770,639	02/02/2004	Francisco Sanchez-Madrid	27331-501CIP2A	1583

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EXAMINER	
SKELDING, ZACHARY S	
ART UNIT	PAPER NUMBER
1644	
MAIL DATE	DELIVERY MODE
12/10/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/770,639	SANCHEZ-MADRID ET AL.	
	Examiner	Art Unit	
	ZACHARY SKELDING	1644	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *56,59,60,67-77 and 105-108* is/are pending in the application.

4a) Of the above claim(s) *70-77* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *56,59,60,67-69 and 105-108* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. In view of the Appeal Brief filed September 15, 2008, PROSECUTION IS HEREBY REOPENED. New Grounds of Rejection are set forth below.

   To avoid abandonment of the application, appellant must exercise one of the following two options:

   (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

   (2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

2. Disposition of the claims:

   Claims 1-55, 57-58, 61-66 and 78-104 are canceled.

   Claims 56, 59, 60, 67-77 and 105-108 are pending.

   Claims 56, 59, 60, 67-69 and 105-108 are under consideration as they read on a method of treating an unwanted immune response comprising administering a depleting anti-CD69 antibody, wherein the species of unwanted immune response is "rheumatoid arthritis".

   Claims 70-77 have been withdrawn from further consideration by the Examiner, under 37 C.F.R. § 1.142(b), as being directed to non-elected inventions.

3. This Office Action is in response to applicant's appeal brief filed September 15, 2008.

   The previous rejection under 35 U.S.C. § 103(a) has been withdrawn upon reconsideration.

   New Grounds of Rejection are put forth below.

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

   > The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 56, 59, 60, 67-77 and 105-108 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for a method of treating rheumatoid arthritis

or viral chronic hepatitis with a depleting anti-CD69 antibody wherein the anti-CD69 antibody specifically binds SEQ ID NO:2, does not reasonably provide enablement for a method of treating the breadth of diseases encompassed by the instant claims with a depleting anti-CD69 antibody. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims.

Factors to be considered in determining whether a disclosure meets the enablement requirement of 35 USC 112, first paragraph, have been described by the court in In re Wands, 8 USPQ2d 1400 (CA FC 1988). Wands states on page 1404, "Factors to be considered in determining whether a disclosure would require undue experimentation have been summarized by the board in Ex parte Forman. They include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims."

The instant specification discloses the treatment of a collagen induced arthritis murine model with a depleting anti-CD69 antibody (see, e.g., the instant specification Example 6 and pages 104-105). Moreover, the prior art also strongly suggests a role for hepatic infiltrating CD8+ lymphocytes persistently expressing CD69 in chronic viral hepatitis (see, e.g., Xiao-Hong et al., Proc Natl Acad Sci U S A. 1999 May 11;96(10):5692-7, in particular page 5695, last sentence before the discussion and page 5696, left column, 1st paragraph and right column, 1st paragraph; Marzio et al., Immunopharmacol Immunotoxicol. 1999 Aug;21(3):565-82, in particular page 573, 2nd paragraph).

However, the knowledge in the art of treating the breadth of diseases encompassed by the instant claims with a depleting anti-CD69 antibody, such as any “disorder or condition characterized by an unwanted immune response" (claim 56); OR any “acute or chronic inflammatory disorder, or an immune disorder" (claim 67); OR any "autoimmune disorder" (claim 68) including, e.g., “systemic lupus erythematosus” and any “organo-specific immune disease” (claim 69) is low.

In view of the lack of guidance and direction in the instant specification commensurate in scope with the claimed method, and the limited knowledge in the art pertaining to the treatment of the diseases encompassed by the claimed methods, the skilled artisan would be unable to practice the claimed method to its full breadth without resorting to undue experimentation.

In particular, it would be unclear to the skilled artisan from the disclosure of the instant specification or the teachings in the art that any “disorder or condition characterized by an unwanted immune response" (claim 56); OR any “acute or chronic inflammatory disorder, or an immune disorder" (claim 67); OR any "autoimmune disorder" (claim 68) including, e.g.,

"systemic lupus erythematosus" and any "organo-specific immune disease" (claim 69) can be treated with a depleting anti-CD69 antibody.

The instant specification provides insufficient direction or guidance to demonstrate that CD69 is persistently expressed on the disease causing cells of any "disorder or condition characterized by an unwanted immune response" (claim 56); OR any "acute or chronic inflammatory disorder, or an immune disorder" (claim 67); OR any "autoimmune disorder" (claim 68) including, e.g., "systemic lupus erythematosus" and any "organo-specific immune disease" (claim 69).

That CD69 is considered an "early activation marker" as described by the instant specification as opposed to a "late activation marker" implies there are some activated cells which do not express CD69.

This is consistent, for example, with the teachings of Craston et al., J Immunol Methods. 1997 Nov 10;209(1):37-45, that upon alloantigen stimulation T cell express CD69 transiently (see Craston page 42, right column, 3rd-4th paragraphs and Figure 7).

Thus, for any given "disorder or condition characterized by an unwanted immune response" (claim 56); OR any "acute or chronic inflammatory disorder, or an immune disorder" (claim 67); OR any "autoimmune disorder" (claim 68) including, e.g., "systemic lupus erythematosus" and any "organo-specific immune disease" (claim 69), the skilled artisan would not be able to predict with any degree of certainty if the disease causing cells, even if said cells are memory or activated cells, will also be cells the persistently express CD69.

Furthermore, even if an activated leukocyte, such as an activated T cell does persistently express CD69, there is no scientifically sound reason to assume a priori that inhibiting that cell will successfully treat any "disorder or condition characterized by an unwanted immune response" (claim 56); OR any "acute or chronic inflammatory disorder, or an immune disorder" (claim 67); OR any "autoimmune disorder" (claim 68) including, e.g., "systemic lupus erythematosus" and any "organo-specific immune disease" (claim 69).

For example, around 3% of resting peripheral blood mononuclear cells (PBMC) obtained from systemic lupus erythematosus (SLE) patients were found to express CD69 as compared to 0% of resting PBMC obtained from normal controls (see, Portales-Perez et al., Lupus. 1997;6(1):48-56, cited on an IDS). As taught by Portales-Perez "it is very feasible that the in vivo expression of CD69 in SLE is reflecting the abnormal autoimmune reactions that are occurring in these patients." (see page 55, left column, 2nd paragraph). However, it does not automatically follow that depleting CD69+ cells would treat SLE because there is no convincing indication in the art that these CD69+ cells make a substantive contribution to disease. Indeed, the skilled artisan would not know, a priori, if these CD69+ cells are more likely to be involved in suppressing or augmenting disease given that defective T cell immunoregulation is thought to play a role in the hyperactivity of B cells in SLE. (see Portales-Perez, page 48, column bridging paragraph to page 48, 1st paragraph).

Thus, the instant claims encompass an invention of tremendous breadth, and essentially call for trial and error by the skilled artisan to begin discovering how to use the claimed invention without assisting the skilled artisan in such an endeavor, which is insufficient to constitute adequate enablement.

Furthermore, regarding in vivo methods which rely on previously undescribed and generally unpredictable mechanisms, "The amount of guidance or direction needed to enable the invention is inversely related to the amount of knowledge in the state of the art as well as the predictability in the art." In re Fisher, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970). The "amount of guidance or direction" refers to that information in the application, as originally filed, that teaches exactly how to make or use the invention. The more that is known in the prior art about the nature of the invention, how to make, and how to use the invention, and the more predictable the art is, the less information needs to be explicitly stated in the specification. In contrast, if little is known in the prior art about the nature of the invention and the art is unpredictable, the specification would need more detail as to how to make and use the invention in order to be enabling (MPEP 2164.03). The MPEP also states that physiological activity can be considered inherently unpredictable.

Also is should be noted that in Rasmusson v. SmithKline Beecham Corp., 75 USPQ2d 1297-1303 (CAFC 2005), the court stated "If mere plausibility were the test for enablement under section 112, applicants could obtain patent rights to 'inventions' consisting of little more than respectable guesses as to the likelihood of their success. When one of the guesses later proved true, the 'inventor' would be rewarded the spoils instead of the party who demonstrated that the method actually worked. That scenario is not consistent with the statutory requirement that the inventor enable an invention rather than merely proposing an unproved hypothesis."

In conclusion, undue experimentation would be required to practice the claimed method of treatment commensurate with the breadth of the claims based on the disclosure of the instant specification and the knowledge in the art. Reasonable correlation must exist between the scope of the claims and scope of enablement set forth. In view of the quantity of experimentation necessary, the limited working examples, the unpredictability of the art, the lack of sufficient guidance in the specification, and the breadth of the claims, it would take undue trials and errors to practice the claimed invention.

Lastly, claim 56 recites "…wherein the anti-CD69 antibody specifically binds SEQ ID NO:2 to the subject." The skilled artisan would not know how to use an antibody to bind its cognate antigen "to the subject." Rather, the administered depleting anti-CD69 antibody would be expected to deplete CD69 expressing cells from the subject.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 56, 59, 60, 67-69, 105, 107 and 108 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van der Lubbe et al. (J Autoimmun. 1997 Feb;10(1):87-97, cited herewith) in view of Marzio et al. (Immunopharmacol Immunotoxicol. 1999 Aug;21(3):565-82, cited herewith), McInnes et al. #1 (Nat Med. 1997 Feb;3(2):189-95) and McInnes et al. #2 (Immunol Today. 1998 Feb;19(2):75-9).

Van der Lubbe teaches that while initial clinical trials of treating rheumatoid arthritis patients with depleting anti-CD4 antibodies reported a beneficial effect, follow up studies such as their own "revealed no therapeutic effect." (see Van der Lubbe page 94, column bridging paragraph).

In particular, while most studies showed that depleting anti-CD4 antibodies induced long-lasting peripheral blood CD4+ lymphopenia, there was *no association* between the degree of peripheral blood CD4+ lymphopenia and therapeutic benefit. (see, ibid).

According to Van der Lubbe, *the absence of such an association* is attributable to two factors:

(a) failure of the administered anti-CD4 antibodies to achieve sufficient concentrations at the site of inflammation, i.e., the synovial joint, and

(b) selective depletion of naive CD4+ T cells over CD45RO+ memory T cells and activated T cells, in conjunction with a failure to induce Th1 to Th2 immunomodulation.

(see Van der Lubbe page 94 column bridging paragraph to the end of page 94 and page 90, right column, 2nd paragraph to page 91, right column, 1st paragraph).

Van der Lubbe differs from the claimed invention in that it does not teach the use of depleting anti-CD69 antibodies to treat rheumatoid arthritis.

However, Marzio teaches although CD69 is absent on peripheral blood resting lymphocytes, e.g., naive T cells, "CD69+ T cells have been detected at remarkably high levels in synovial fluid and synovial membrane from chronic rheumatoid arthritis patients and, to a lesser extent, in patients suffering from other types of chronic synovitis." (see Marzio paragraph bridging pages 572-73).

Furthermore, McInnes #1 teaches that T cells regulate and induce TNF-α production from macrophage localized within the rheumatoid arthritis synovium. In particular, McInnes #1 teaches IL-15 selectively induces the expression of CD69 on CD45RO+ T cells, thereby

recruiting these T cells from the peripheral blood to the rheumatoid synovium where they activate TNFα release from macrophage/monocytes via a mechanism dependent on cell-cell contact. (see page 189-90 bridging paragraph; column bridging paragraph page 192 and Figure 6). The CD45RO+ T cell induction of TNFα production by macrophage/monocytes is "almost completely abrogated by addition of anti-CD69 antibody." (see McInnes #1 page 192, right column, 1st paragraph and Figure 7).

Lastly, McInnes #2 is a review article that summarizes the findings of McInnes #1 concerning the role of IL-15 induction of CD69 on CD45RO+ T cells, and in turn the role of these CD69 expressing T cells in inducing TNFα production by synovial macrophage. (see McInnes #2 page 76, right column 1st paragraph and Box 1; the paragraph bridging pages 76-77 and Figure 1).

With regard to clinical strategies for the treatment of rheumatoid arthritis, McInnes #2 teaches in the paragraph bridging pages 77-78 that "cell-directed therapies that not only inhibit T-cell activation but also deplete T cells from the synovial compartment, or at least interfere with their membrane interactions, will probably be most efficacious. It is of interest that clinical improvement following anti-CD4 therapy in RA correlates with synovial T-cell coating with anti-CD4."

Given the reference teachings, it would have been obvious to one of ordinary skill in the art at the time the instant invention was made that depleting anti-CD69 antibodies would be excellent alternative to depleting anti-CD4 antibodies for the treatment of rheumatoid arthritis. In particular, it would have been obvious to one of ordinary skill in the art that depleting anti-CD69 antibodies would address many of the problems known in the art of treating rheumatoid arthritis with depleting anti-CD4 antibodies and would be reasonable expected to ameliorate disease as a consequence.

In particular, one of ordinary skill in the art would have been well aware that depleting anti-CD4 antibodies had not lived up to their early clinical promise for treating rheumatoid arthritis as subsequent clinical trials showed these antibodies preferentially depleted naive peripheral blood T cells rather than depleting the disease causing memory T cells (CD45RO+) localized to the rheumatoid synovium.

However, it would have been obvious to one of ordinary skill in the art, and one of ordinary skill in the art would have had a reasonable expectation of success in treating rheumatoid arthritis with an anti-T cell antibody which preferentially depletes the memory T cells that induce the production of TNFα in the rheumatoid synovium but does not deplete naive peripheral blood T cells.

One of ordinary skill in the art would have been motivated to use an anti-CD69 antibody for this purpose given the teachings of Marzio that CD69 is not expressed on naïve peripheral blood T cells but is expressed "at remarkably high levels in synovial fluid and synovial membrane from chronic rheumatoid arthritis patients," and further given the showing of

McInnes #1 that the memory T cell induction of TNFα production by macrophage/monocytes is "almost completely abrogated by addition of anti-CD69 antibody."

Moreover, one of ordinary skill in the art would have been motivated to make use of a depleting anti-CD69 antibody to treat rheumatoid arthritis given the teachings of McInnes #2 that "cell-directed therapies that not only inhibit T-cell activation but also deplete T cells from the synovial compartment, or at least interfere with their membrane interactions, will probably be most efficacious." Of course, as would be obvious to one of ordinary skill in the art, the best possible anti-CD69 agent would be one that both inhibits the interaction of CD69 expressing T cells with synovial macrophage thereby inhibiting TNFα production and at the same time triggers the depletion of CD69 expressing T cells.

Given the teachings of the references, it was apparent that one of ordinary skill in the art would have had a reasonable expectation of success in arriving at the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Thus, the instant claims are unpatentable over Van der Lubbe in view of Marzio, McInnes #1 and McInnes #2.

Applicant's arguments put forth in the Appeal Brief filed September 15, 2008, in so far as they are fully germane to the rejection put forth above are addressed further below.

At the paragraph bridging pages 20-21 through page 21 of the appeal brief applicant argues that even if the examiner had established a prima facie case of obviousness, "this case would be rebutted by the unexpected results presented in the instant application."

More particularly, applicant argues as follows:

"[t]he specification teaches, unexpectedly from the standpoint of one of ordinary skill in the art at the time the invention was made, that it is important that the CD69 specific antibody be a depletor of CD69+ cells, as opposed to specifically binding to CD69, while not depleting CD69+ cells in an *in vivo* model for unwanted immune response. Treatment of mice having an unwanted immune response *(i.e.,* collagen-induced arthritis (CIA)) with a CD69 specific antibody that does not deplete CD69+ cells *in vivo* (i.e., mAb 2.2) actually exacerbated CIA in those mice. In contrast, treatment of CIA induced mice with a CD69 specific antibody that depletes CD69+ cells *(i.e.,* mAb 2.3) significantly reduced CIA. In this sense, the neutralizing antibodies of McInnes 1997 may actually exacerbate rheumatoid arthritis if they do not deplete CD69+ cells. This result was unexpected in light of McInnes 1998, Ledbetter, and McInnes 1997 and also the other previously published *in vivo* data present by the examiner. Thus, Appellants submit that the methods of claims 56, 59, 60, 67-69 and 105-108 are based on unexpected properties and thus are non-obvious over McInnes 1998, Ledbetter, and McInnes 1997."

Applicant's argument is not found convincing because (1) a sufficient case of prima facie obviousness is put forth above and (2) there is no apparent nexus between the claimed invention, i.e., a method of treating a disorder characterized by an unwanted immune response, such as rheumatoid arthritis, with a depleting anti-CD69 antibody, and applicant's disclosure that the "2.2" mAb disclosed in the instant specification which down modulates CD69 from the T cell surface but does not deplete T cells, per se, did not behave as expected by applicant in a collagen induced arthritis murine model system. See MPEP 716.01(b).

8. Claims 105 and 106 are rejected under 35 U.S.C. 103(a) as unpatentable over Van der Lubbe et al. (J Autoimmun. 1997 Feb;10(1):87-97, cited herewith) in view of Marzio et al. (Immunopharmacol Immunotoxicol. 1999 Aug;21(3):565-82, cited herewith), McInnes et al. #1 (Nat Med. 1997 Feb;3(2):189-95) and McInnes et al. #2 (Immunol Today. 1998 Feb;19(2):75-9). as applied to claims 56, 59, 60, 67-69, 105, 107 and 108 above, and further in view of Christine White (US 20020039557 A1).

The teachings of Van der Lubbe, Marzio, McInnes #1 and McInnes #2 are given in Section 7 above.

The teachings of Van der Lubbe, Marzio, McInnes #1 and McInnes #2 differ from the claimed invention in that they do not explicitly teach the use of an anti-CD69 antibody conjugated to a second therapeutic agent, such as a radioisotope, as a depleting antibody.

However, given the teachings of Van der Lubbe, Marzio, McInnes #1 and McInnes #2 it would have been obvious to one of ordinary skill in the art that an anti-CD69 which is not naturally depleting, i.e., it does not naturally induce complement dependent cytolysis and/or antibody dependent cell cytotoxicity through its constant domain, can be made depleting by conjugating said antibody to a second therapeutic agent, such as a radioisotope, which will damage the cells to which it binds. Furthermore, even if an antibody is naturally depleting, it can be made yet more potent by conjugating said antibody to a second therapeutic agent.

Such concepts have been long known in the antibody immunotherapeutic art, for example, the use of naturally depleting or conjugated anti-B cell antibodies to treat rheumatoid arthritis as taught by Christine White. (see US 20020039557, in particular, page 1, paragraph [0003]; page 5, paragraph [0053]; page 6, paragraph [0065]; page 7, paragraph [0075]).

Thus, it would have been obvious to one of ordinary skill in the art, and one of ordinary skill in the art would have been motivated to prepare anti-CD69 antibodies that deplete cells via conjugation to a second therapeutic agent given that antibody mediated cell depletion via conjugation to a second therapeutic agent and via natural mechanisms are art recognized equivalent means for achieving the same predictable endpoint – depletion of the target cell. See MPEP § 2144.06 and KSR Int 'l Co. v. Teleflex Inc., 127 S. Ct. 1727, 1742, 82 USPQ2d 1385, 1397 (2007).

Given the teachings of the references, it was apparent that one of ordinary skill in the art would have had a reasonable expectation of success in arriving at the claimed invention. Therefore, the invention as a whole was *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

Thus, the instant claims are unpatentable over Van der Lubbe in view of Marzio, McInnes #1 and McInnes #2, and further in view of Christine White.

9. No claim is allowed.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ZACHARY SKELDING whose telephone number is (571)272-9033. The examiner can normally be reached on Monday - Friday 8:00 a.m. - 5:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen O'Hara can be reached on 571-272-0878. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Zachary Skelding
Patent Examiner
December 2, 2008

/Michail A Belyavskyi/
Primary Examiner, Art Unit 1644

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:
/Eileen B. O'Hara/
Supervisory Patent Examiner, Art Unit 1644